

Chemotherapy in the oldest old: The feasibility of cytotoxic therapy in the 80+ population.

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Background: The incidence of most common malignancies increases with age. As life expectancy improves globally, more elderly cancer patients will be candidates for systemic therapy. There is little data investigating chemotherapy (CT) in those over 80 – the “oldest old”. Our hypothesis is that CT in the 80+ population may be associated with significant toxicities and is therefore not feasible for many patients.

Methods: A retrospective chart review was undertaken to report outcomes of patients ≥ 80 years old who initiated CT for solid tumors at the Ottawa Hospital Cancer Center between Nov. 2005 and Jan. 2010. Baseline data on patient demographics, cancer type and CT were collected. Primary endpoints included: rates of CT dose reduction, omission, delay and discontinuation due to toxicity, hospitalization and blood transfusion rates.

Results: CT was initiated on 212 occasions (32% lung, 31% GU, 24% GI, 13% other cancer). Median age was 83 (range 80-92) and 60% of patients were male. Where data were available, 60% had a good performance score (ECOG 0-1) and 63% were current or ex-smokers. 82% had Charlson risk index scores of ≥ 5 , 37% had ≥ 6 baseline medications, 18% lived alone independently. At baseline, 11% were anemic, 12% had leukocytosis, and 45% had impaired renal function (eGFR <60). Most patients had stage 4 disease (76%), were treated with palliative intent (75%) and were receiving first line CT (77%). Initial dose was adjusted in 34% of cases. Therapy was discontinued due to toxicity in 30% of cases, and 53% of patients required dose reduction, omission or delay. In 38% of cases, patients were hospitalized during their course of therapy or within 30 days thereof. Blood transfusions were required in 24%. Factors associated with risk of hospitalization included baseline number of medications ≥ 6 (OR 1.96, 95% CI 1.1-3.5) and baseline anemia (OR 2.55, 95% CI 1.07-6.05). Initial dose reduction at cycle 1 did not significantly affect rates of hospitalization, transfusion or CT discontinuation.

Conclusions: CT in the 80+ population is associated with a significant risk of hospitalization, transfusion and discontinuation due to toxicity, even when doses are adjusted from the outset. We plan to prospectively validate these findings.



Novartis Oncology Young Canadian Investigator Award 2012
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To whom it may concern,

RE: Dr. Shelly Sud

It is with great pleasure that I write to support the application of Dr. Shelly Sud for a NOYCIA. Her research paper "*Chemotherapy in the Oldest Old: The Feasibility of Cytotoxic Therapy in the 80+ Population*" [REDACTED] 2012 American Society of Clinical Oncology annual meeting in Chicago (Abstract no. 6083). This area of research is increasingly relevant in the current era, where in Canada we have an ageing population and an increasing number of cytotoxic agents available for treatment of cancer patients. While much research has been performed investigating treatment in the elderly, this is often defined as a 70+ years population, and there is very little data in the 80+ population. This project therefore is both relevant to our population, but also of clear clinical utility, and will form the backbone for a proposed prospective study in this area.

Dr. Sud is currently a PGY4 resident in Medical Oncology at the University of Ottawa, with a background in family medicine before a welcome change of career when she moved into the Oncology program. Since joining our division she has demonstrated excellent clinical, administrative and research skills.

As her primary supervisor for this research, I vouch that Dr. Sud has been the active principal investigator, having written the database, statistical plan and collected the overwhelming majority of the data. She worked closely with her co-investigators and biostatistician, resulting in the writing of the submitted abstract. In addition she has provided supervision for a second-year medical student who has acted as a research assistant. She has contributed at least 75-80% of the overall work that has gone into this research thus far.

I would appreciate your strong consideration of Dr. Sud for a NOYCIA.

Yours sincerely,

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SHELLY SUD

My contribution to the project consisted mainly of:

- Review of pertinent Literature
- Application for approval from our institution's Research Ethics Board
- Creation and organization of the Database
- Writing the Statistical Plan
- Collecting the majority (+80%) of data via chart review, and supervising a medical student research assistant as she helped with data collection
- Writing the Abstract
- Creating the Poster to be presented at ASCO

I had the opportunity to work closely with my supervisor in generating the project from his initial hypothesis and project idea. In addition, I got to work closely with the statistician who analyzed the data.

Contribution percentage:

75%